

REMARKS

In response to the above-identified Final Office Action ("Action"), Applicants traverse the Examiner's rejection of the claims and seek reconsideration thereof. Claims 1-23 are now pending in the instant application. In this response, no claims are added, no claims are amended and no claims are cancelled.

I. Claim Rejections – 35 U.S.C. §102

In the outstanding Action, claims 17 and 19 stand rejected under 35 U.S.C. §102(b) as being anticipated by U. S. Patent No. 6,219,742 issued to Stanley ("Stanley"). Applicants respectfully traverse the rejection.

It is axiomatic that to anticipate a claim, every element of the claim must be disclosed within a single reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Furthermore, the reference must disclose the identical invention in as complete detail as is found in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

In regard to claim 17, Stanley fails to teach at least the element of "an operating system module executed by the processor to identify a system resource that generates an interrupt and register a device driver to manage the system resource" as recited in claim 17.

The Examiner alleges col. 11, lines 12-15 discloses this element. In particular, the Examiner alleges that the General Purpose Event handler determines which system resource has signaled the event and in turn the System Control Interrupt . See Action, pages 10-11. Applicants respectfully disagree with the Examiner's characterization of this portion of the reference.

Specifically, this portion teaches that "[t]he handler determines which device object has signaled the event and performs a Notify operation on the corresponding device object(s) that have asserted the event. In turn, the OS notifies the OS native driver(s) to service each device

that has asserted Wake.” See Stanley, col. 11, lines 12-15. Nowhere within this portion of Stanley is an operating system module that both identifies system resources that generate interrupts and registers a device driver to manage those system resources explicitly recited. The Examiner alleges Stanley clearly indicates the device driver is registered with the system resource by the operating system because Stanley states “[t]he native OS driver is then notified that *its* device [e.g. system resource] has asserted wake...” See Action, page 11, citing Stanley, col. 11, lines 37-39. Nowhere within this portion of Stanley, however, is registering a device driver to manage system resources explicitly recited. Thus, Applicants do not understand how the Examiner believes this portion clearly teaches an operating system module to register a device driver to manage the system resource.

For at least the foregoing reasons, Stanley fails to teach each and every element of claim 1. Since each of the elements of the claim are not found within the reference, anticipation may not be established. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by Stanley.

In regard to dependent claim 19, claim 19 depends from claim 17 and incorporates the limitations thereof. Thus, for at least the reasons that claim 17 is not anticipated by Stanley, claim 19 is further not anticipated by Stanley. Applicants respectfully request reconsideration and withdrawal of the rejection to claim 19 under 35 U.S.C. §102(b) as being anticipated by Stanley.

II. Claim Rejections – 35 U.S.C. §103

A. In the outstanding Action, the Examiner rejects claims 1, 2, and 4 under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 5,590,312 issued to Marisetty ("Marisetty") in view of U. S. Patent No. 6,148,361 issued to Carpenter et al. ("Carpenter"). Applicants respectfully traverse the rejection.

To render a claim obvious, the relied upon references must disclose every limitation of the claim such that the invention as a whole would have been obvious at the time the invention

was made to one skilled in the art. See MPEP §2143. Furthermore, there must be a showing of suggestion or motivation to modify or combine the teachings of those references. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

In regard to claim 1, neither Marisetty nor Carpenter, alone or in combination teach or suggest at least the element of “configuring the resource by the operating system to access the address range” as recited in claim 1. The Examiner alleges Marisetty, col. 7, lines 45-49 and lines 55-56 teach this element. Specifically, the Examiner alleges the step of the application accessing the address range in Marisetty is equivalent to “configuring the resource to access the address range.” See Action, page 11. The Examiner further states since the application in Marisetty performs its functions under the control of the operating system, it is understood that the operating system is the component that actively configures the application to access the address range. See Action, page 11.

For at least the reasons discussed in the previous response, an application accessing an address range is not equivalent to “configuring the resource by the operating system to access the address range.” In particular, a VGA address space as taught in Marisetty is a well known set range. See Marisetty, col. 7, lines 42-45. Thus, no configuration of a resource identified by the operating system is needed for the application to access the VGA address range and the Examiner has not shown that it would be. Instead, such an application is programmed to access this well known range and no configuration by the operating system is required.

The Examiner has not relied upon, and Applicants are unable to discern a portion of Carpenter curing the deficiencies of Marisetty with respect to this element.

Moreover, in alleging Applicants’ statements in the previous response are contradictory, the Examiner misquotes Applicants. The Examiner alleges Applicants stated that “operating systems are [not] responsible for setting up the memory allocations of various devices.” See Action, page 12. Applicants, however, actually stated “the excerpt from Wikipedia.org pointed to by the Examiner does not show that operating systems are responsible for setting up the memory allocations of various devices. Instead, the excerpt describes an operating system as a

software program which performs basic tasks such as controlling and allocating memory...the memory allocation referred to is the memory management further discussed on page 2 [of the excerpt], where the OS manages system memory allotted to running applications.” See Response dated October 6, 2006, page 9. As argued by Applicants in the previous response and as maintained herein, allocating memory is not the same as setting up or configuring a resource to access a particular memory range. Still further, the definition of “operating system” cited by the Examiner in the instant response does not show operating systems are responsible for setting up the memory allocations of various devices. Instead, as pointed out by the Examiner, the definition describes an operating system as software which controls the allocation and usage of memory, not a system which configures software or hardware to utilize such allocations.

For at least the foregoing reasons, the references fail to teach or suggest each and every element of claim 1. Since each element of claim 1 is not taught or suggested by Marisetty in view of Carpenter, a *prima facie* case of obviousness may not be established. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Carpenter.

In regard to claims 2 and 4, these claims depend from claim 1 and incorporate the limitations thereof. Thus, for at least the reasons that claim 1 is not obvious over Marisetty in view of Carpenter, claims 2 and 4 are further not *prima facie* obvious over the references. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 2 and 4 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Carpenter.

B. In the outstanding Action, the Examiner rejects claims 3, 5, 6 and 11-13 under 35 U.S.C. 103(a) as being unpatentable over Marisetty in view of Carpenter and further in view of Stanley. Applicants respectfully traverse the rejection.

In regard to claims 3, 5 and 6, these claims depend from claim 1 and incorporate the limitations thereof. Thus, for at least the reasons mentioned in regard to claim 1, Marisetty in view of Carpenter, fails to teach or suggest at least the element of “configuring the resource by the operating system to access the address range” as further found in claims 3, 5 and 6. The

Examiner has further not pointed to, and Applicants are unable to discern a portion of Stanley curing the deficiencies of Marisetty and Carpenter with respect to this element. Since each and every element of claims 3, 5 and 6 is not taught or suggested by the references, a *prima facie* case of obviousness may not be established. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 3, 5 and 6 under 35 U.S.C. §103(a) as being obvious over Marisetty in view of Carpenter and further in view of Stanley.

In regard to claim 11, Marisetty in view of Carpenter and further in view of Stanley fails to teach or suggest at least the element of “means for an operating system to configure the resource to access the address range” as recited in claim 11. For reasons similar to those mentioned above in regard to claims 3, 5 and 6, Marisetty in view of Carpenter and Stanley fails to teach or suggest at least this element of claim 11. Since each and every element of claim 11 is not taught or suggested by the references, a *prima facie* case of obviousness may not be established. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 11 under 35 U.S.C. §103(a) as being obvious over Marisetty in view of Carpenter and further in view of Stanley.

In regard to claims 12 and 13, these claims depend from claim 11 and incorporate the limitations thereof. Thus, for at least the reasons that claim 11 is not obvious over Marisetty in view of Carpenter and Stanley, claims 12 and 13 are further not *prima facie* obvious over the references. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 12 and 13 under 35 U.S.C. §103(a) as being obvious over Marisetty in view of Carpenter and Stanley.

C. In the outstanding Action, the Examiner rejects claims 7-10, 14-16, 18 and 20-23 under 35 U.S.C. 103(a) as being unpatentable over Marisetty in view of Stanley. Applicants respectfully traverse the rejection.

In regard to claim 7, Marisetty in view of Stanley fails to teach or suggest at least the element of “determining the source of the interrupt based on the address access request at an operating system level.” The Examiner admits that Marisetty fails to teach or suggest this

element and instead relies upon the teachings of Stanley in col. 11, lines 12-15 to cure the deficiencies of Marisetty with respect to this element. See Action, page 6. As previously discussed, however, this portion of Stanley merely teaches a handler to determine which device object signaled an event and performing a notify operation on the device object and OS native drivers. See Stanley, col. 11, lines 12-15. Nowhere within this portion of Stanley is it expressly disclosed that the source of the interrupt is determined based on “the address access request at an operating system level.” The Examiner alleges col. 11, lines 29-36 disclose the General Purpose Event handler operating at the operating system level to determine the source of the interrupt. See Action, page 12. This portion of Stanley, however, discusses enabling or disabling the General Purpose Event, not operation of the General Purpose Event handler at the operating system level. The Examiner further alleges the General Purpose Event handler in Stanley determines which device object has signaled the event based on the SCI. See Action, page 14. A determination of the source based on the SCI does not teach or suggest determining the source of the interrupt “based on the address access request at an operating system level” as recited in claim 7. Thus for at least the foregoing reasons, Marisetty in view of Stanley fails to teach or suggest each element of claim 7. Since each of the elements of claim 7 are not found within the references, a *prima facie* case of obviousness may not be established. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 7 under 35 U.S.C. §103(a) as being obvious over Marisetty in view of Stanley.

In regard to claims 8-10, these claims depend from claim 7 and incorporate the limitations thereof. Thus, for at least the reasons that claim 7 is not obvious over Marisetty in view of Stanley, claims 8-10 are further not *prima facie* obvious over the references. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 8-10 under 35 U.S.C. §103(a) as being obvious over Marisetty in view of Stanley.

In regard to claim 14, Marisetty in view of Stanley fails to teach or suggest at least the element of “an operating system level interrupt handler module to receive an interrupt when the address protection module detects an address space access and to invoke the ASL code segment corresponding to the address space access.” The Examiner admits Marisetty fails to teach or

suggest this element and instead alleges the General Purpose Event handler disclosed in col. 11, lines 5-65 of Stanley teaches this element. See Action, pages 9 and 13-14. The Examiner further alleges in response to Applicants' previous arguments that even if the system control interrupt ("SCI") is received by the General Purpose Event handler through the ACPI, the SCI is still received by the General Purpose Event handler and is a critical step to know when to determine which device object signaled the event. See Action, page 14. Applicants respectfully disagree with the Examiner's characterization.

As pointed out in the previous response, the General Purpose Event handler discussed in this portion of Stanley is called in response to the setting of a bit in the General Purpose Event register causing a system control interrupt to be asserted. See Stanley, col. 11, lines 5-8. There is no indication that the handler receives the interrupt when an address space access is detected. Instead, Stanley discloses that when a device signals an event and the corresponding bit is enabled, the SCI is asserted. See Stanley, col. 11, lines 5-10. Once the system is running, the advanced configuration and power interface then dispatches the corresponding General Purpose Event handler to determine which device object signaled the event and perform the Notify operation. See Stanley, col. 11, lines 11-13. Thus, the General Purpose Event handler corresponding to the signaled event is dispatched upon signaling of the event and already knows when to identify the device object which signaled the event and perform the Notify operation, i.e., upon dispatch. Receipt of an SCI by the handler is not what triggers dispatch of the handler. The Examiner further alleges the SCI is received by the General Purpose Event handler through the ACPI and therefore this limitation of claim 14 is met. The Examiner, however, fails to point to any portion of the reference expressly teaching the handler receives the SCI through the ACPI. Thus, for at least the foregoing reasons, the Examiner has not shown that this element, which the Examiner admits Stanley is silent on, would be obvious to one of ordinary skill in the art.

Thus for at least the foregoing reasons, Marisetty in view of Stanley fails to teach or suggest each element of claim 14. Since each of the elements of claim 14 are not found within the references, a *prima facie* case of obviousness may not be established. Applicants respectfully

request reconsideration and withdrawal of the rejection of claim 14 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Stanley.

In regard to claims 15 and 16, these claims depend from claim 14 and incorporate the limitations thereof. Thus, for at least the reasons that claim 14 is not obvious over Marisetty in view of Stanley, claims 15 and 16 are further not *prima facie* obvious over the references. Claims 15 and 16 are further not obvious over the references for at least the reason that the Examiner has not shown that Marisetty in view of Stanley teaches or suggests “an input output protection module that generates a general protection fault” as recited in claim 15 and “a memory protection module that generates a page fault” as recited in claim 16. Instead, the Examiner states general protection faults and page faults are well known interrupts generated when a device attempts to access a protected I/O address or a protected system memory address, respectively. See Action page 9. Applicants disagree that these elements are well known for at least the reason that the prior art, namely, Marisetty and Stanley, fail to contemplate or discuss generating general protection faults and page faults. The Examiner has further not provided any documentary support of the alleged well known facts. As the Examiner is no doubt aware, in a Final Action, it is rarely appropriate to rely upon common knowledge without evidentiary support in rejecting a claim. Accordingly, Applicants respectfully request that if the Examiner chooses to maintain the rejection of claims 15 and 16 on this basis, the Examiner provide documentation evidencing the alleged well known facts. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 15 and 16 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Stanley.

In regard to claim 18, this claim depends from independent claim 17 and incorporates the limitations thereof. Thus, for at least the reasons that claim 17 is not obvious over Marisetty in view of Stanley, claim 18 is further not *prima facie* obvious over the references. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 18 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Stanley.

In regard to claim 20, Marisetty in view of Stanley fails to teach or suggest at least the element of “determining the source of the interrupt based on the address access request at an operating system level” as recited in claim 20. For at least the reasons mentioned above in regard to independent claim 7, claim 20 is not *prima facie* obvious over the references. Applicants respectfully request reconsideration and withdrawal of the rejection of claim 18 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Stanley.

In regard to claims 22 and 23, these claims depend from independent claim 20 and incorporate the limitations thereof. Thus, for at least the reasons that claim 20 is not obvious over Marisetty in view of Stanley, claims 22 and 23 are further not *prima facie* obvious over the references. Applicants respectfully request reconsideration and withdrawal of the rejection of claims 22 and 23 under 35 U.S.C. § 103(a) as being obvious over Marisetty in view of Stanley.

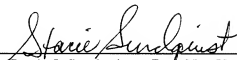
CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-23, are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,

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